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VARIOUS.

TRANSFERRING THE GRAIN OF WOOD.

Graining has always been one of the most difficult branches of the house painter's trade. We do not mean that kind of graining which is too often seen, and which does not at all imitate the wood it is intended to represent, but good graining, which looks like the natural wood itself, and if well executed, is one of the most tasteful ornamental styles of house-painting. There is, besides proper training, also a certain natural disposition required in order to make a good grainer. Many house-painters can never succeed in this line, and therefore the invention of Mr. J. R. Cross, enabling anyone to transfer the grain of various kinds of wood to be imitated to a painted surface, is of great value, more so as the operation is very simple and expeditious, requiring very little time. The operation requires only two kinds of tools; first, a board of the wood of which the grain is to be transferred, and next an elastic roller to take up the paint and transfer it to the surface to be grained. It is well to select a board of which the grain is such that the pores admit of a liquid paint, which is first spread over the surface, and the surplus removed by a flat-edged scraper. Then an elastic roller, similar to those used by printers for ordinary printing presses, is run over the surface of the board, and as this takes the paint up which is left in the pores of the wood, it will receive on its surface a *fac simile* impression of the grain, which is then easily transferred to any given surface over which the roller is passed. Five rollers of differently graduated widths, inclosed in a box, is the way in which they are delivered by Mssrs. Cross and Bastine, of New-York, to those who wish to take advantage of their invention. We had the pleasure, at the fair of the American Institute for 1873, of inspecting this invention as one of the judges, and of recommending the silver medal which was awarded; but it is a greater pleasure to us to see now that Mssrs. Cross and Bastine have improved on their invention, and are now able to imitate the grain of such wood as possesses too few or too minute pores to take up sufficient paint for the roller; for instance, some kinds of rosewood or French walnut, which, notwithstanding they show the finest grained figuring, are very close in regard to porosity. This difficulty is overcome by simply scratching and deepening the dark parts, lines, or points with a steel tool, so as to make room for the deposit of paint, and as such boards, if of very fine grain, are valuable, electrotype copies are taken, and delivered with the rollers. Messrs. Cross and Bastine have also established a system of exchange by which painters may be provided successively with a variety of electrotype models to transfer from. It must not be supposed that one of these models gives only one figure of grain, as by twisting the roller or by using it in oblique or transverse directions, the grain may be so changed as to become entirely different and unrecognizable, notwithstanding it always shows the special character of the wood. It matters not whether the surface to be grained be flat and even, or panelled and moulded, the work can be performed by this process ten times faster than by the common hand grainer's method, and at less cost. Impressions from assumed designs, etched on glass, slate, wood, or metal, may in the same way be taken and applied with indelible fidelity to any kind of fabric, even to wire cloth. The most complex and delicate lace work, too, may be pictorially reproduced by this process. In fact, any configuration can be faithfully copied by it. But so far its most important service next to its original purpose of wood graining, is in wall-paper graining. In this line of manufacture it ought to be invaluable, as heretofore the imitations of natural woods made upon paper have been made from engraved blocks, the designs being drawn by hand, and though frequently very admirable representations, were necessarily not faithful copies of any specific piece of nature. A new machine just patented by Mr. Cross for this particular class of work, and which he has already sold the working right of to a paper-hanging manufacturing concern in New-York, will turn off 4,000 rolls of grained paper daily. A room therefore appered with the paper printed by this machine must necessarily have the appearance of being walled by the substantial wood from which it is printed. The method has become quite popular, and has been used in several churches and hotels, by furniture manufacturers, and by undertakers on coffins; 412 licenses and sets of tools have already been sold. *American Artizan.*

BONE GLASS.

Fischer states that a peculiar kind of frosted glass is prepared by the addition of bone earth to ordinary glass, the frosting being due to incomplete decomposition of the phosphate of lime. Of late cryolite has been used in place of bone earth. In this case, possibly, the frosting is caused by the evolution of hydrofluoric acid.

Chem. Centralblatt, 1874, 186.

AMBROSELLI'S COMPO' FOR BRICKWORK.

In January last, the silver medal and prize of the value of 1,500 marks (£ 75) offered six years previously by the Prussian Verein zur Beförderung des Gewerbefleisses, for the best composition for facing brickwork, was awarded to M. Ambroselli, a master-bricklayer of Neu Barnim, near Wreizel, for a composition used on a large scale for the cornices, window-mouldings, &c., of the Villa Abel, near Potsdam, and found to have stood the test of two winters well. The conditions of the prize were that the composition should resist the action of wet, sun, and frost, should take a good even colour all through, or at least to a suitable depth below the surface, and should not be more expensive than ordinary stucco.

Ambroselli's compo' is laid on in three coats. The sand and lime must be free from all impurities, and the underlying brickwork of good, sound, well-burnt bricks, thoroughly set. It must be well soaked with clean water before the composition is put on. This is best done with a hose and force-pump.

The first coat is composed of 1 part of good slaked lime, which should have been slaked at least a fortnight previously, and 2 parts of clean coarse sand. When these are thoroughly intermixed, Portland cement is added in the proportion of 25 per cent. of the whole volume. This coat, which is made less stiff than the other two, is quickly laid on and brought to the required surface. The second coat, laid on in like manner over the first, consists of 2 parts of slaked lime, 2 of fine sand, and 12 per cent. of Portland cement. The third and final coat consists of 1 part each of sifted lime and 1 very fine sand, mixed with ·05 per cent. of cement and a suitable amount of colouring matter if desired. It is very carefully finished off, and the surface is then rubbed down hard with a piece of hard wood or iron. Lastly, the whole is gone over with a polished steel trowel ·005 metre in thikness, which imparts a fine gloss and finish.

Practical Magazine, from Bau-Zeitung.

EARTHENWARE STOVES AND GRATES.

The undermentioned journal directs attention to the stoves and fireplaces manufactured by Muller et Cie, of Paris, from the designs of Professor Muller, of the Ecole Centrale. The stoves are formed exclusively of terra-cotta, whereby the ill effects arising from the production of carbonic-oxide gas, the excessive desiccation of the air, and the carbonization of the organic particles contained therein are completely avoided. The weight of these stoves ranges from 135 to 230 kilogs. (280 lbs. to 480 lbs.), and the price from 120 to 160 francs.

The fire-places with open grates are made entirely of earthenware enamelled. A fireplace of this description, measuring 55 centimetres × 45 centimetres × 85 centimetres, weighs 100 kilogs., and costs 50 francs.

Technologiste, February, 1875.